



EXCERPT FROM THE PROCEEDINGS

OF THE FIFTH ANNUAL ACQUISITION RESEARCH SYMPOSIUM

SUMMARY OF ECHOES ACROSS THE POND: UNDERSTANDING EU-US DEFENSE INDUSTRIAL RELATIONSHIPS

Published: 23 April 2008

by

BG Raymond (Chip) Franck (Ret.), Dr. Ira Lewis, Dr. Bernard Udis

**5th Annual Acquisition Research Symposium
of the Naval Postgraduate School:**

**Acquisition Research:
Creating Synergy for Informed Change**

May 14-15, 2008

Approved for public release, distribution unlimited.

Prepared for: Naval Postgraduate School, Monterey, California 93943



Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 23 APR 2008		2. REPORT TYPE		3. DATES COVERED 00-00-2008 to 00-00-2008	
4. TITLE AND SUBTITLE Summary of Echoes Across the Pond: Understanding EU-US Defense Industrial Relationships				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School, Graduate School of Business & Public Policy, Monterey, CA, 93943				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES 5th Annual Acquisition Research Symposium: Creating Synergy for Informed Change, May 14-15, 2008 in Monterey, CA					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 29	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

The research presented at the symposium was supported by the Acquisition Chair of the Graduate School of Business & Public Policy at the Naval Postgraduate School.

To request Defense Acquisition Research or to become a research sponsor, please contact:

NPS Acquisition Research Program
Attn: James B. Greene, RADM, USN, (Ret)
Acquisition Chair
Graduate School of Business and Public Policy
Naval Postgraduate School
555 Dyer Road, Room 332
Monterey, CA 93943-5103
Tel: (831) 656-2092
Fax: (831) 656-2253
E-mail: jbgreene@nps.edu

Copies of the Acquisition Sponsored Research Reports may be printed from our website www.acquisitionresearch.org

Conference Website:
www.researchsymposium.org



ACQUISITION RESEARCH PROGRAM
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY
NAVAL POSTGRADUATE SCHOOL

Proceedings of the Annual Acquisition Research Program

The following article is taken as an excerpt from the proceedings of the annual Acquisition Research Program. This annual event showcases the research projects funded through the Acquisition Research Program at the Graduate School of Business and Public Policy at the Naval Postgraduate School. Featuring keynote speakers, plenary panels, multiple panel sessions, a student research poster show and social events, the Annual Acquisition Research Symposium offers a candid environment where high-ranking Department of Defense (DoD) officials, industry officials, accomplished faculty and military students are encouraged to collaborate on finding applicable solutions to the challenges facing acquisition policies and processes within the DoD today. By jointly and publicly questioning the norms of industry and academia, the resulting research benefits from myriad perspectives and collaborations which can identify better solutions and practices in acquisition, contract, financial, logistics and program management.

For further information regarding the Acquisition Research Program, electronic copies of additional research, or to learn more about becoming a sponsor, please visit our program website at:

www.acquistionresearch.org

For further information on or to register for the next Acquisition Research Symposium during the third week of May, please visit our conference website at:

www.researchsymposium.org



THIS PAGE INTENTIONALLY LEFT BLANK



Summary of Echoes across the Pond: Understanding EU-US Defense Industrial Relationships

Presenter: Raymond (Chip) Franck, PhD, Senior Lecturer, Graduate School of Business & Public Policy, Naval Postgraduate School, retired from the Air Force in 2000 in the grade of Brigadier General after 33 years commissioned service. He served in a number of operational tours as a bomber pilot; staff positions—which included the Office of Secretary of Defense and Headquarters, Strategic Air Command; and was Professor and Head, Department of Economics and Geography at the US Air Force Academy. His institutional responsibilities at NPS have included the interim chairmanship of the newly formed Systems Engineering Department from July 2002 to September 2004, teaching a variety of economics courses and serving on a number of committees to revise curricula for both the Management and Systems Engineering disciplines. His research agenda focuses on defense acquisition practices and military innovation.

Raymond (Chip) Franck
Senior Lecturer
Graduate School of Business & Public Policy
Naval Postgraduate School
Monterey, CA 93943
Phone: (831) 656-3614
E-mail: refranck@nps.edu

Author: Ira Lewis, PhD, is Associate Professor of Logistics, Graduate School of Business and Public Policy, Naval Postgraduate School, Monterey, CA. His interests include transportation, public policy, and the impact of information technology on logistics.

Ira A. Lewis
Associate Professor
Graduate School of Business & Public Policy
Naval Postgraduate School
Monterey, CA 93943
Phone: (831) 656-2464
E-mail: ialewis@nps.edu

Author: Bernard Udis, PhD, is Professor Emeritus of Economics at the University of Colorado at Boulder and Visiting Research Professor at the US Naval Postgraduate School at Monterey. He has also served as Distinguished Visiting Professor of Economics at the US Air Force Academy, and as William C. Foster Fellow at the US Arms Control & Disarmament Agency. His NATO Research Fellowship examined the costs and benefits of offsets in defense trade.

Professor Udis' published work includes three books: *The Economic Consequences of Reduced Military Spending* (editor, 1973), *From Guns to Butter: Technology Organizations and Reduced Military Spending in Western Europe* (1978), and *The Challenge To European Industrial Policy: Impacts of Redirected Military Spending* (1987). In addition, he has published numerous articles in scholarly journals on defense industries and military power. These include "Offsets as Industrial Policy: Lessons from Aerospace" (with Keith Maskus, 1992), and "New Challenges to Arms Export Control: Whither Wassenaar?" (with Ron Smith, 2001). A number of his works are considered classics in defense economics and have been reprinted in collections such as *The Economics of Defence* (Todd Sandler & Keith Hartley, 2001) and *ARMS TRADE, SECURITY AND CONFLICT* (Paul Levine & Ron Smith, 2003).

Professor Udis' current research focuses upon competition and cooperation in the aerospace industries of the US and the EU.



Bernard Udis
Professor Emeritus
Graduate School of Business and Public Policy
13 Camino Real
Sandia Park, NM 87047
(505)286-2789
E-mail: Bernard.Udis@colorado.edu

Abstract

This report represents the authors' efforts to provide a useful, albeit partial, understanding of the international defense marketplace—which we view as growing increasingly complex. In pursuit of that objective, we provide a brief overview of international defense markets in the context of both changes in military affairs and the various defense industrial bases.

In analyzing the defense market, we essay multiple analytical frameworks (along the lines of *Essence of Decision*). Our analytical models are: (a) a sophisticated view of offsets in a public policy context with market imperfections, (b) transaction cost economics, with our unit of analysis being the nation-state instead of the firm, and (c) two standard corporate strategy models.

To test the models' explanatory powers, we consider three ongoing "cases": F-35 Joint Strike Fighter, the UK Defense Industrial Strategy, and the Northrop-Grumman-EADS KC-30 proposal. Interestingly, we find all three hypotheses have some explanatory power, but none of the three is demonstrably better than the others (in this small sample).

Summary

This is a summary of the report cited above for inclusion in the *Proceedings of the Fifth Naval Postgraduate School's Annual Acquisition Symposium* (2008, May). (The report itself greatly exceeds the length guidelines for the *Proceedings*. The topics raised here are discussed in greater detail within the body of that report.)

The motivation for this particular project was our conviction that standard explanatory paradigms for understanding global defense trade, e.g., offsets and related subjects, have been strained—perhaps to the breaking point. Accordingly, we hypothesized that analysis of this increasingly complex market system would be improved by the application of multiple models (as was done by Graham Allison in *Essence of Decision*).

Section I is a brief introduction.

Section II is an interpretative discussion of ongoing developments in the international defense market place. In this section, we discuss the following.

- A. Military Affairs. There are two ongoing Revolutions in Military Affairs—one lead by the US DoD, the other by contemporary terrorist and insurgency movements. Accordingly, the international defense market has been significantly affected by the ongoing competition between between two groups that are deliberately engaged in processes of rapid military innovation (both underpinned by contemporary information technology).



- B. Developments in the Global Defense Marketplace (in general)—including acquisition reform and the globalization of defense industrial production. We noted in particular the systemic tension between globalization and national sovereignty—an issue that’s especially acute for defense-related goods.
- C. US and EU Defense Industrial Developments (in particular). These include the role of US and European defense firms in the world market, recent trends in defense budgets, and patterns of reorganization (generally consolidation). We noted the dangers of relying solely on detailed quantitative analysis to analyze a complex and changing system in the absence of well-defined analytic paradigms.

Section III presents multiple analytical frameworks as a basis for the analysis of complex systems. We then present our three paradigms.

- A. We first summarize Allison’s use of multiple analytical frameworks.
- B. *Offsets* and International Industrial Participation. We hypothesize that although the offsets perspective was not able to offer comprehensive understanding of the international defense market, we believe it still has explanatory power (and are, in any case, obliged to assess its usefulness).
- C. *Transaction Cost Economics* (TCE): TCE was originally developed to study vertical boundaries of firms (the make-or-buy decision in particular). We summarize the relevant considerations for that decision. We expand the standard TCE model somewhat and consider the nation-state as a military enterprise. (One would then view a decision to buy military equipment as a decision to import—as opposed to a decision to rely on domestic sources.)
- D. *Corporate Strategy*: Finally, we introduce two standard models of corporate strategy: Five Forces (Porter, 1980) and “Co-opetition” (Brandenburger & Nalebuff, 1996).

Section IV provides narratives of three ongoing “cases”: the Joint Strike Fighter (JSF), the UK Defense Industrial Strategy, and the KC-30 Proposal. For all three cases, we provide an interpretive narrative (up to report publication) and then provide explanations based on the three frameworks (from Section III).

Joint Strike Fighter

Offsets: The JSF seems structured to operate in an offsets-free model. Among other things, the JSF consortium is intended to change foreign military sales customers to stakeholders (who share both in risks and rewards). This arrangement, in turn, is intended to drive the consortium’s focus toward productive efficiency rather than the side payments negotiated in offset agreements. The viewpoints of the JSF stakeholders (expressed in anonymous interviews) is not fully consistent with that objective.

Transaction Cost Economics: From the prime contracting firm’s perspective, international trade in defense goods frequently involves the formation of long-term relations—the consequences of which are one of the main concerns of the TCE literature. The JSF strategy is, in a very real sense, intended to delay the “fundamental transformation” from competitive market to something similar to bilateral monopoly.



Corporate Strategy: The JSF model addresses every defense industrial firm's concern with buyer power—sovereign entities in this case. The aim is to mitigate this threat to profits by recruiting stakeholders who are well placed to influence the sovereign buyers' behavior—in this case, domestic defense firms in a number of countries.

UK Defense Industrial Strategy (DIS)

Offsets: Taken at face value, the DIS is intended for a post-offsets trading regime. However, a more in-depth reading reveals a careful preparation for negotiations over industrial participation (as tacit offsets). For example, the DIS identifies core industries in which there must be domestic defense participation.

Transaction Cost Economics: One of the major purposes of the DIS is protection from the costs and risks associated with outsourcing (importing) major portions of the UK's defense equipment. From this perspective, there are many serious areas of concern associated with importing modern defense systems. The DIS' insistence upon "appropriate sovereignty" in the lifecycle management (and operational use) of this imported equipment is a serious effort to manage and mitigate those risks.

Corporate Strategy: The contemporary defense marketplace poses significant threats to the profits (and, therefore, viability) of the British defense industrial base. The DIS first reserves certain categories of defense products to domestic firms. It also insists upon the ability to upgrade, modify and generally manage defense systems throughout their operational life. This is well understood as a strategy for mitigating (foreign) supplier power.

KC-30 Proposal

Stealthy Offsets: The details of the KC-30 proposal, which included provisions for extensive US industrial participation, were really intended to insert offsets into a proposal to a customer who ostensibly did not engage in offset agreements. The evolution of the KC-30's industrial participation component is best understood as a tacit negotiation over offsets.

Corporate Strategy: Standard models of corporate strategy clearly reveal the rationale for EADS' entry to the US defense market—with a view to changing its environment by redefining its market niche. The USAF's KC-X project provided EADS with a high degree of market power relative to both its rival and its prospective buyer. The buyer (the US government) insisted upon competition, with EADS being the only reasonable competitor other than Boeing. Hence, the success of the KC-30 in the initial Air Force source-selection process is the result of a very well-crafted corporate strategy (regardless of final outcome).

Transaction Cost Economics: The risks the US would assume in choosing the KC-30 include an international politics of a "holdup"—denying support to KC-30s in US military operations because of source-country disapproval. Hence, the partnership with Northrop-Grumman and extensive KC-30 production work located in the US are readily understandable as means to assure the US government that such risks are not serious.

Some Conclusions

Basically, we found support for our hypothesis about the international defense market being an increasingly complex system, the study of which usefully involves the application of multiple analytical frameworks.

We conclude, first, that all three of our perspectives have explanatory power in all three cases considered. Second, and also interesting, is that relative explanatory power varied over this small sample. We concluded that the offsets paradigm was best for understanding the Joint Strike Fighter project; that TCE did best for the UK's DIS; and corporate strategy models provided especially good insights into the KC-30 proposal.

List of References (cited in this summary)

- Allison, G.T. (1971). *Essence of decision*. New York: Little, Brown.
- Allison, G.T., & Zelokow, P. (1999). *Essence of decision* (2nd ed.). New York: Longman.
- Brandenburger, A.M., & Nalebuff, B.J. (1996). *Co-opetition*. New York: Doubleday.
- Porter, M.E. (1980). *Competitive strategy: Techniques for analyzing industries*. New York: Free Press.



THIS PAGE INTENTIONALLY LEFT BLANK



2003 - 2008 Sponsored Research Topics

Acquisition Management

- Software Requirements for OA
- Managing Services Supply Chain
- Acquiring Combat Capability via Public-Private Partnerships (PPPs)
- Knowledge Value Added (KVA) + Real Options (RO) Applied to Shipyard Planning Processes
- Portfolio Optimization via KVA + RO
- MOSA Contracting Implications
- Strategy for Defense Acquisition Research
- Spiral Development
- BCA: Contractor vs. Organic Growth

Contract Management

- USAF IT Commodity Council
- Contractors in 21st Century Combat Zone
- Joint Contingency Contracting
- Navy Contract Writing Guide
- Commodity Sourcing Strategies
- Past Performance in Source Selection
- USMC Contingency Contracting
- Transforming DoD Contract Closeout
- Model for Optimizing Contingency Contracting Planning and Execution

Financial Management

- PPPs and Government Financing
- Energy Saving Contracts/DoD Mobile Assets
- Capital Budgeting for DoD
- Financing DoD Budget via PPPs
- ROI of Information Warfare Systems
- Acquisitions via leasing: MPS case
- Special Termination Liability in MDAPs



Human Resources

- Learning Management Systems
- Tuition Assistance
- Retention
- Indefinite Reenlistment
- Individual Augmentation

Logistics Management

- R-TOC Aegis Microwave Power Tubes
- Privatization-NOSL/NAWCI
- Army LOG MOD
- PBL (4)
- Contractors Supporting Military Operations
- RFID (4)
- Strategic Sourcing
- ASDS Product Support Analysis
- Analysis of LAV Depot Maintenance
- Diffusion/Variability on Vendor Performance Evaluation
- Optimizing CIWS Lifecycle Support (LCS)

Program Management

- Building Collaborative Capacity
- Knowledge, Responsibilities and Decision Rights in MDAPs
- KVA Applied to Aegis and SSDS
- Business Process Reengineering (BPR) for LCS Mission Module Acquisition
- Terminating Your Own Program
- Collaborative IT Tools Leveraging Competence

A complete listing and electronic copies of published research are available on our website: www.acquisitionresearch.org





ACQUISITION RESEARCH PROGRAM
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY
NAVAL POSTGRADUATE SCHOOL
555 DYER ROAD, INGERSOLL HALL
MONTEREY, CALIFORNIA 93943

www.acquisitionresearch.org

ECHOES ACROSS THE POND: Understanding EU-US Defense Industrial Relationships

Raymond Franck, Ira Lewis, Bernard Udis
Naval Postgraduate School
ACQUISITION RESEARCH SYMPOSIUM
Panel 18, 15 May 2008

OUTLINE

- SELECTED MAJOR DEVELOPMENTS IN THE INTERNATIONAL MARKETPLACE
- ANALYTICAL PARADIGMS: Offsets, Transaction Cost Economics, Corporate Strategy
- SELECTED CASES: JSF, UK Defence Industrial Strategy, KC-30 PROPOSAL
 - NARRATIVE
 - INTERPRETATIONS

ONGOING DEVELOPMENTS

- MILITARY AFFAIRS
 - TWO RMAs: OURS AND THEIRS
 - EFFECTS OF THOSE RMAs
 - CURRENT COMBAT OPERATIONS
 - DEFENSE ACQUISITION AND INDUSTRIES
 - ERA OF RECAPITALIZATION?
- OBSERVATIONS
 - ARE PLATFORMS BECOMING DECADENT TECHNOLOGIES?
 - TENSION BETWEEN HYPERADAPTIVE WARFARE AND ACQUISITION PROCESSES THAT ARE HYPERBUREAUCRATIZED, HYPERLEGALIZED AND HYPERPOLITICIZED.

DEVELOPMENTS (Cont)

- INTERNATIONAL DEFENSE
MARKETPLACE: Reform, Globalization
 - TENSION BETWEEN NATIONAL
SOVEREIGNTY AND GLOBALIZATION
- US-EU DEFENSE INDUSTRIES
 - MAJOR ROLES IN WORLD MARKET
 - DEFENSE BUDGET TRENDS
 - PATTERNS OF REORGANIZATION

EXPLANATORY PARADIGMS

- *ESSENCE OF DECISION* (Allison)
 - MULTIPLE MODELS IMPROVE UNDERSTANDING OF COMPLEX EVENTS.
 - MODEL I – UNITARY RATIONAL ACTOR
 - MODEL II – ORGANIZATIONAL BEHAVIOR
 - MODEL III – GOVERNMENTAL POLITICS
- OUR MODELS
 - OFFSETS (Udis & Maskus, 1991)
 - TRANSACTION COST ECONOMICS (Williamson,...)
 - CORPORATE STRATEGY (5 Forces, “Co-opetition”)

OFFSETS (Udis & Maskus)

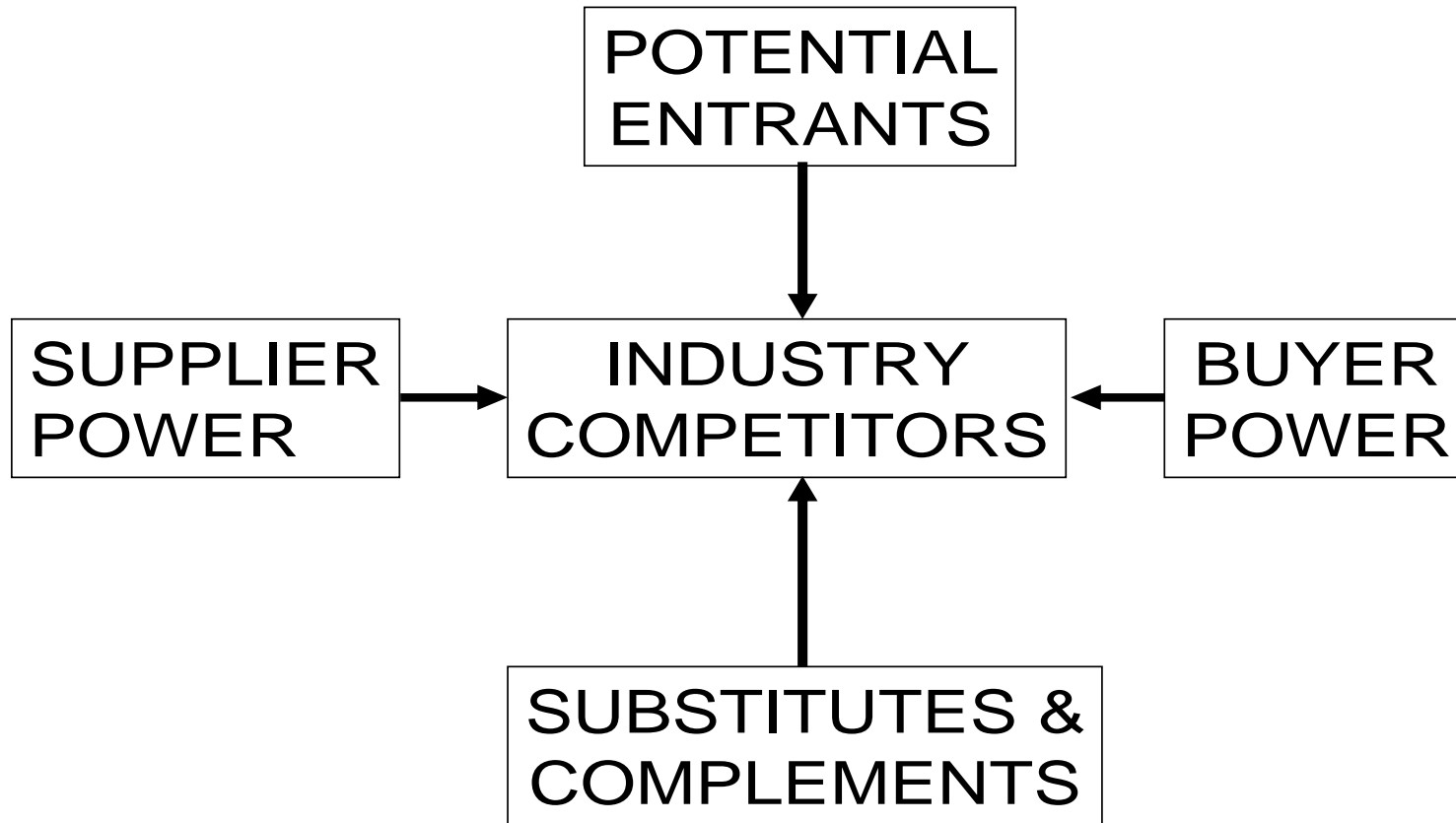
- A MEANS OF REACHING POLITICAL CONSENSUS FOR PURCHASING IMPORTED MILITARY EQUIPMENT.
- A PARTIAL REDRESS FOR THE IMPERFECTIONS FROM OLIGOPOLIES AND PROTECTIONIST POLICIES OF ARMS EXPORTERS (e.g., Buy American legislation, French industrial policy).

TRANSACTION COST ECONOMICS

- BEGAN AS A SYSTEMATIC STUDY OF THE “VERTICAL” BOUNDARIES OF THE FIRM ... ESPECIALLY THE “MAKE OR BUY” DECISION
- SPECIAL ATTENTION TO THE COSTS AND RISKS OF OUTSOURCING RELATIONSHIPS
 - COORDINATION
 - MOTIVATION (OPPORTUNISTIC BEHAVIOR AND “HOLDUPS”)
- NATION-STATE AS DEFENSE ENTERPRISE

CORPORATE STRATEGY:

Five Forces Model



First “Case:” Joint Strike Fighter

- POST-OFFSET TRADE? JSF consortium concept intent is changing customers into collaborators – in search of first-best efficiency in the program.
 - Answer: Probably not.
- TCE: Preserving competition in the supply chain. Avoiding the “fundamental” transformation to bilateral offset negotiations.
- STRATEGY: JSF model is a way of addressing buyer power held by sovereign entities, by creating stakeholders within those countries.

UK Defence Industrial Strategy

POST-OFFSET WORLD?

- seems structured for a trading regime without offsets.
- ... but with an offsets (as industrial participation) negotiation template built in ...
 - Core Industries
 - Appropriate Sovereignty
- Answer: probably not

UK Defence Industrial Strategy

- **TRANSACTION COST ECONOMICS:**
Protection from costs and risks associated with outsourcing (importing) defense equipment.
 - Risks of military dependence vs. imperatives of technology and globalization
 - Hedges against opportunistic behavior from suppliers with forms of tapered integration ...
 - ...with core sectors in certain defense industries.
 - ... and significant capabilities for life-cycle management

UK Defence Industrial Strategy

- CORPORATE STRATEGY: The DIS addresses threat to profits for domestic firms that globalization presents through a more competitive defense marketplace.
 - Reservation for domestic producers (Core Industries) a (partial) barrier to entry to the UK defense market.
 - “Appropriate Sovereignty” provisions are a way for the MOD to deal with supplier power.

KC-30 PROPOSAL

- STEALTHY OFFSETS? The public details of the NG-EADS proposal included substantial industrial participation ... consistent with tacit bargaining over offsets.
 - “Northrop Grumman's KC-45 Tanker program will support 48,000 direct and indirect jobs at 230 supplier companies in 49 states.”



<http://www.northropgrumman.com/kc45/benefits/commitment.html>

KC-30 PROPOSAL

- TRANSACTION COST ECONOMICS: REASSURANCE ABOUT THE RISKS OF A “HOLDUP” THROUGH US CONTENT.
- CORPORATE STRATEGY:
 - REDEFINING CORPORATE ENVIRONMENT: entering the US defense market
 - SUPPLIER POWER: US insistence on KC-X competition
 - OVERCOMING BARRIERS TO ENTRY: Partnership with Northrop Grumman

CONCLUSION: Some Support for Our Multiple-Models Hypothesis

- ALL THREE FRAMEWORKS HAVE SOME EXPLANATORY POWER IN ALL THREE CASES.
- BEST MODELS (OUR ASSESSMENTS)
 - JOINT STRIKE FIGHTER: OFFSETS
 - UK Defence Industrial Strategy: TRANSACTION COST ECONOMICS
 - KC-30 PROPOSAL: CORPORATE STRATEGY